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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/527,188

12/01/2005

Tobias Gicbel

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21171 7590 04/24/2007  
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EXAMINER

CHAN, RICHARD

ART UNIT

PAPER NUMBER

2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/24/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/527,188	<b>Applicant(s)</b> GIEBEL ET AL.	
	<b>Examiner</b> Richard Chan	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 February 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 2/9/07 have been fully considered but they are not persuasive.

With respect to applicant's arguments based on the Roy III reference, the applicant states that Roy III does not disclose or suggest that signals are transmitted via at least two intermediate stations, and that the base station contains multiple antennas 102, 104, 106 in Fig.7. The examiner respectfully points to the applicant to the Roy III reference, specifically Col.13 line 49-51 wherein the an embodiment of the of the invention includes that one receiver is assigned to each antenna as shown on Fig.7. The numerals (102, 104, 106) are not merely just antennas for a single receiver, but in fact multiple receivers with their respective antennas communication with stations 20, 22, and 24.

And with respect to applicant's arguments with respect to Roy III not disclosing or suggesting that the at least two intermediate stations also signal with one another to configure transmission between the first and second radio stations. The examiner respectfully directs the applicant to the Roy III reference, specifically (Col.13 line 58-61) which discloses that an embodiment of the invention which discloses an SDMA and spatial demultiplexer is dedicated to each channel, the receivers will have to communicate with each other in order to receive and transmit on multiple different channels.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 11-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Roy III (US 5,515,378).

With respect to claim 11, Roy discloses the method for transmitting signals in a radio communication system Fig. (6-9) , comprising: transmitting signals from a first radio station 20 via at least two intermediate stations (102, 104, 106 and 152, 154, 156) to a second radio station 24; and signaling between the at least two intermediate stations to configure transmission from the first radio station to the second radio station. (Col.13 lines 63 – Col.13 line 18 and Col.14 lines 47-54)

With respect to claim 12, Roy discloses the method in accordance with claim 11, wherein characteristic quantities are signaled between the at least two intermediate stations and the first and/or second radio station. (Col.14 lines 10-19)

With respect to claim 13, Roy discloses the method in accordance with claim 11, wherein characteristic quantities are determined in the intermediate stations from

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signals received from the first and/or second radio station. (Col.14 lines 10-19)

With respect to claim 14, Roy discloses the method in accordance with claim 12, wherein the characteristic quantities are used in the intermediate stations to determine weighting factors. (Col.13 line 8)

With respect to claim 15, Roy discloses the method in accordance with claim 14, wherein the characteristic quantities contain information on channel properties. (Col. 15 lines 37-44)

With respect to claim 16, Roy discloses the method in accordance with claim 15, wherein information on the channel properties is updated only if there is a change in channel properties. (Col. 15 lines 37-44)

With respect to claim 17, Roy discloses the method in accordance with claim 11, wherein antenna devices of the at least two intermediate stations are configured to correspond to antenna elements of a smart antenna. (Col.13 lines 37-43 and Col. 14 lines 47-54)

With respect to claim 18, Roy discloses the method in accordance with claim 11, wherein signals are transmitted from the first radio station 20 to the second radio station 24 via a plurality of intermediate stations located in a radio coverage area of the first

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radio station and via a plurality of intermediate stations (102, 104, 106 and 152, 154, 156) located in a radio coverage area of the second radio station, antenna devices of the intermediate stations located in the radio coverage area of the first radio station are grouped to form a first smart antenna, and antenna devices of the intermediate stations located in the radio coverage area of the second radio station are grouped to form a second smart antenna. (Col. 14 lines 47-54)

With respect to claim 19, Roy discloses the method in accordance with claim 11, wherein pre-equalization or equalization procedures are used in the intermediate stations for data transmission. (Col.15 lines 37-44)

With respect to claim 20, Roy discloses the method in accordance with claim 11, wherein transmission between the at least two intermediate stations takes place in accordance with a single frequency network. (Col.13 lines 28-33)

With respect to claim 21, Roy discloses the method in accordance with claim 13, wherein the characteristic quantities are used in the intermediate stations to determine weighting factors. (Col.13 line 8)

With respect to claim 22, Roy discloses the method in accordance with claim 21, wherein the characteristic quantities contain information on channel properties. (Col. 15 lines 37-44)

With respect to claim 23, Roy discloses the method in accordance with claim 22, wherein information on the channel properties is updated only if there is a change in channel properties. (Col. 15 lines 37-44)

With respect to claim 24, Roy discloses the method in accordance with claim 23, wherein antenna devices of the at least two intermediate stations are configured to correspond to antenna elements of a smart antenna. (Col.13 lines 37-43 and Col. 14 lines 47-54)

With respect to claim 25, Roy discloses the method in accordance with claim 24, wherein signals are transmitted from the first radio station 20 to the second radio station 24 via a plurality of intermediate stations (102, 104, 106 and 152, 154, 156) located in a radio coverage area of the first radio station 20 and via a plurality of intermediate stations located in a radio coverage area of the second radio station 24, antenna devices of the intermediate stations located in the radio coverage area of the first radio station are grouped to form a first smart antenna, and antenna devices of the intermediate stations located in the radio coverage area of the second radio station are grouped to form a second smart antenna. (Col. 14 lines 47-54)

With respect to claim 26, Roy discloses the method in accordance with claim 25, wherein pre-equalization or equalization procedures are used in the intermediate

stations for data transmission. (Col.15 lines 37-44)

With respect to claim 26, Roy discloses the method in accordance with claim 26, wherein transmission between the at least two intermediate stations takes place in accordance with a single frequency network. (Col.13 lines 28-33)

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.



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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chan whose telephone number is (571) 272-0570. The examiner can normally be reached on Mon - Fri (9AM - 5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571)272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Chan  
Art Division 2618  
4/9/07

  
**NAY MAUNG**  
**SUPERVISORY PATENT EXAMINER**